Skill Level Results for Montana ITBS and ITED 2001 – 2007 Grades 4, 8, and 11

Prepared for Montana OPI

By

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Subjects

- Reading
- Language Arts
- Mathematics
- Social Studies
- Science
- Reference Materials

Skills

- Within each test, sets of items were grouped according to the skills they measured
- 50 skills in Grade 4
- 54 skills in Grade 8
- 28 skills in Grade 11

Skill Level Analysis

- Above or below the norm?
- Trend: Increase, Stable, or Decrease
- "Size" of both status and trend measured in standard deviation units
- Standardizing the size allows comparisons between skills, grades, and years

Summary of Skill Levels and Trends 2001-2007			
Trend 2001-2007	**Much Above Norm** (by $\geq$ .40 S.D.)	**Above Norm** (by .10 - .39 S.D.)	**At Norm**
Increasing	Grade 4 – 5 skills	Grade 4 – 15 skills Grade 8 – 4 skills Grade 11 – 1 skill	Grade 4 – 2 skills
Stable	Grade 4 – 6 skills Grade 11 – 9 skills	Grade 4 – 19 skills Grade 8 – 35 skills Grade 11 – 7 skills	Grade 8 – 14 skills Grade 11 – 5 skills
Decreasing	Grade 11 – 4 skills	Grade 4 – 3 skills Grade 8 – 1 skill Grade 11 – 2 skills	

Skills Overall

- MT students above norm on 84% of the 132 skills tested
- Skills mostly stable (72%) or increasing (20%) – only 8% of skills decreased
- Skills measured by ITBS and ITED were a subset of Montana Content Standards.
  - Best alignment in Mathematics
  - Least alignment in Language Arts

Summary of Skill Levels and Trends 2001-2007			
Trend 2001-2007	Much Above Norm (by ≥ .40 S.D.)	Above Norm (by .10 - .39 S.D.)	At Norm
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Shaded cells – only 27 skills (21%)
– 24 of these were rote or mechanics-type skills (spelling, capitalization, punctuation, math computation)
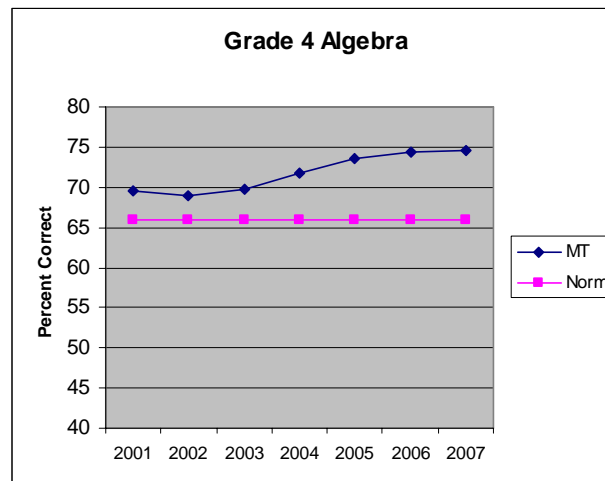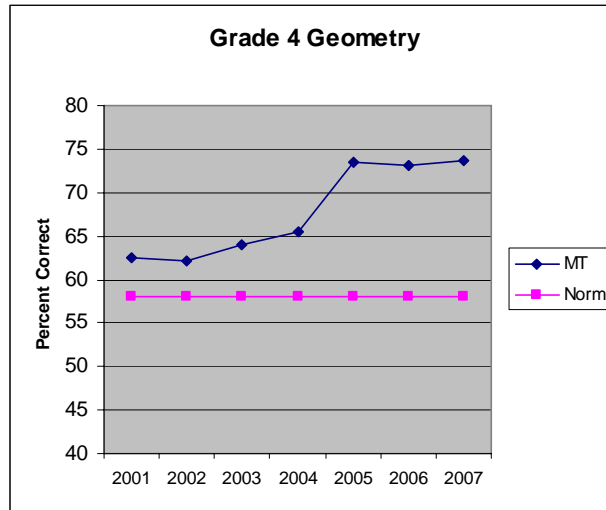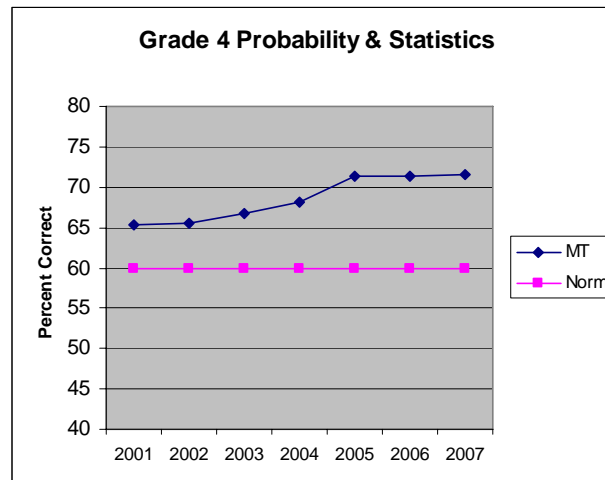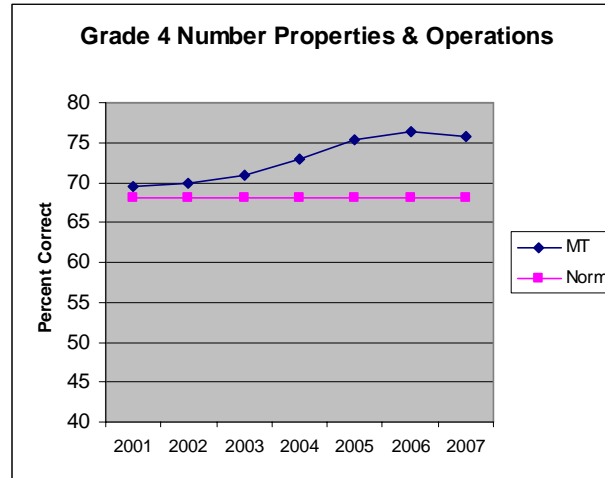
Grade 4

- Grade 4 achievement stood out
- 5 of 50 skills tested (10%) were much above the norm and increasing
- 6 of 50 skills tested (12%) were much above the norm and stable
- These skills were in all content areas
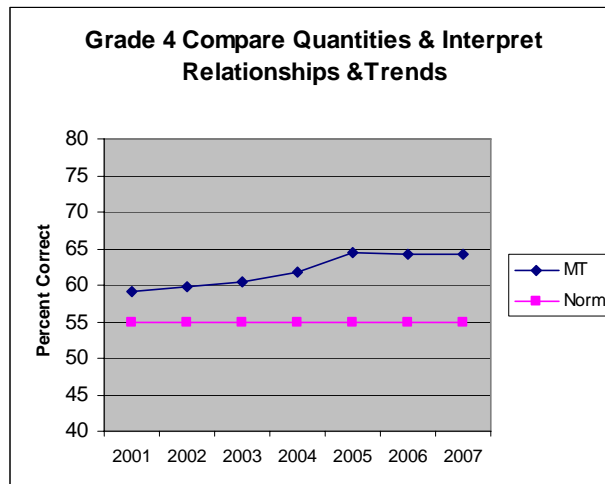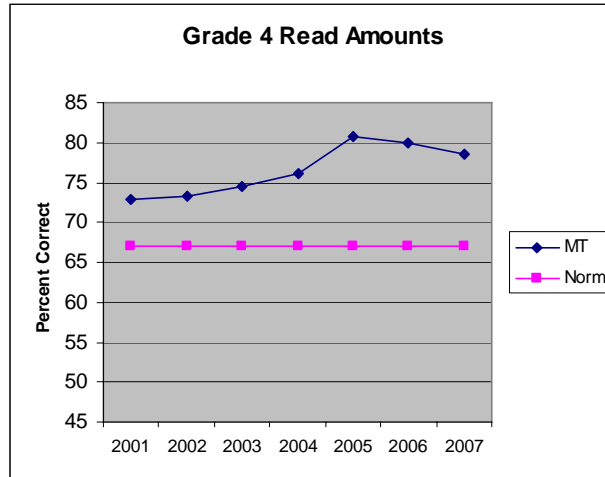- Grade 4 mathematics – dramatic increase, especially in 2005

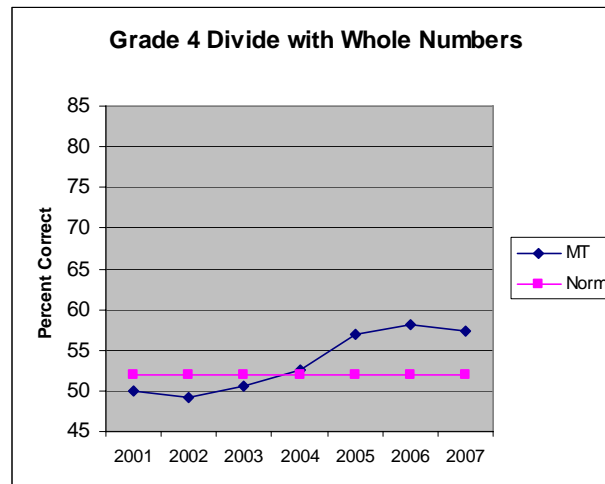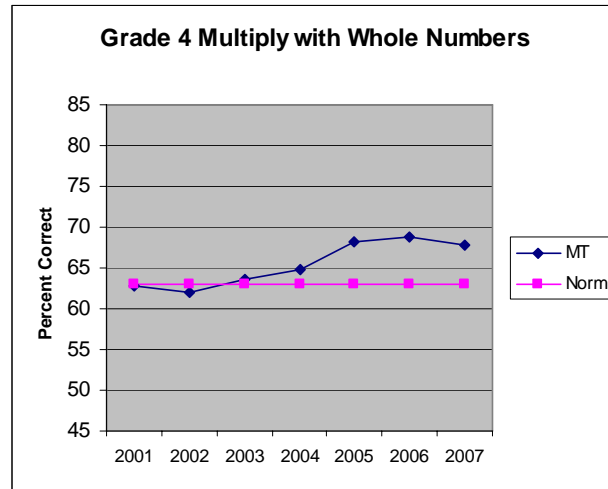| Summary of Grade 4 Skill Levels and Trends 2001-2007			
Trend 2001-2007	**Much Above Norm** (by ≥ .40 S.D.)	**Above Norm** (by .10 - .39 S.D.)	**At Norm**
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Stable	Grade 4 – 6 skills	Grade 4 – 19 skills	
Decreasing		Grade 4 – 3 skills	

Grade 4 Mathematics

- 15 skills tested
- 8 of these (53%) increased twice as much as any other grade/skill tested (≥ .2 sd)
- 5 other skills also increased
- Most dramatic jump in 2005
- Maintained in 2006 and 2007

Grade 4 Geometry

Grade 4 Algebra

Grade 4 Number Properties & Operations

Grade 4 Probability & Statistics

Grade 4 Read Amounts

Grade 4 Compare Quantities & Interpret Relationships &Trends

Grade 4 Multiply with Whole Numbers

Grade 4 Divide with Whole Numbers

Grade 8

- Solid performance
- 40 of 54 skills tested (74%) were above the norm
- 14 skills (26%) were at the norm

Summary of Grade 8 Skill Levels and Trends 2001-2007			
Trend 2001-2007	Much Above Norm (by $\geq$ .40 S.D.)	Above Norm (by .10 - .39 S.D.)	At Norm
Increasing		Grade 8 – 4 skills	
Stable		Grade 8 – 35 skills	Grade 8 – 14 skills
Decreasing		Grade 8 – 1 skill	

Grade 11

- 13 out of 28 skills tested (46%) were much above the norm
  - 4 of these were decreasing
- 10 skills (36%) above the norm
- 5 skills (18%) at the norm

Summary of Grade 11 Skill Levels and Trends 2001-2007			
Trend 2001-2007	Much Above Norm (by $\geq$ .40 S.D.)	Above Norm (by .10 - .39 S.D.)	At Norm
Increasing		Grade 11 – 1 skill	
Stable	Grade 11 – 9 skills	Grade 11 – 7 skills	Grade 11 – 5 skills
Decreasing	Grade 11 – 4 skills	Grade 11 – 2 skills	

Two Questions

1. What happened in Grade 4 mathematics starting in the 2004-2005 school year?

2. Why were most of the skills for which Montana students were "merely" at the norm rote memory and mechanics skills?